



VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

16. A method of writing a light guiding structure comprising:

a) selecting a silica-based bulk glass substrate ~~a~~-material;

\_\_\_\_\_ focusing a below 300 nm laser within said substrate while translating the focus relative to the substrate along a scan path at a scan speed effective to densify and induce an increase in the refractive index of the material along the scan path relative to that of the unexposed material while incurring substantially no laser induced breakdown of the material along the scan path, said induced increased refractive index scan path comprising an optical waveguide core formed within the bulk glass substrate material with the unexposed material outside of the scan path focus providing an optical waveguide cladding surrounding said formed core.